United States Environmental Protection Agency
Region V
POLLUTION REPORT

Date: Friday, August 07, 2009
From: James Mitchell, OSC

Subject: Final POLREP
Des Plaines, IL Mobile Home Mercury Response
[redacted]
Latitude: [redacted]
Longitude: [redacted]

POLREP No.:	4	**Site #:**	B5PV
Reporting Period:		**D.O. #:**	
Start Date:	1/1/0001	**Response Authority:**	CERCLA
Mob Date:	8/7/2008	**Response Type:**	Emergency
Completion Date:	7/24/2009	**NPL Status:**	Non NPL
CERCLIS ID #:		**Incident Category:**	Removal Action
RCRIS ID #:		**Contract #**	

Site Description
Mr [redacted] recently purchased a mobile home at the Touhy Mobile Home Park. Mr [redacted] was steam cleaning his carpets and noticed beads of mercury in the bathroom and on the kitchen floor. After this discovery he notified the National Response Center (NRC). OSC Mitchell reviewed the NRC Spill Report and contacted Ken Runkle at the Illinois Department of Public Health regarding the residential mercury spill. Together they called Mr. [redacted] about the mercury discovery. Mr [redacted] stated that he recently purchased the mobile home about 10 days ago. After steam cleaning the carpets, he noticed beads of mercury in the toilet from the steam cleaner. He then looked for more mercury inside the home.

Based on this information, IDPH requested U.S.EPA's assistance to screen Mr. [redacted] home for mercury. OSC Mitchell along with START Marked met Mr [redacted] sister, [redacted] at 5:00pm on 8/7/2008 to gain access to the home and screen it for mercury. Mr [redacted] arrived home at 6:00pm.

OSC Mitchell and START Maradkel arrived at the Touhy Mobile Home Park at 5:00 pm. A Lumex mercury vapor analyzer (Lumex MVA) was used to screen the property and mobile home for mercury vapors. Mercury screening was first performed outside the mobile home. Readings inside a 96 gallon garbage can and front lawn were below 0.3 micro-grams per cubic meter (ug/m3). Mercury vapor levels along the concrete walkway and stairs into the mobile home ranged from 10 to 60 ug/m3. Visible mercury was been seen in the soil adjacent

to the stairs and on the stairs. PPE was donned prior to entering the home. Breathing zone measurements were collected in each room of the home. All measurements collected in the home were greater than 55 ug/m3. The Agency for Toxic Substances and Disease Registry (ATSDR) along with EPA has developed action levels for indoor mercury vapors in homes. The suggested action level acceptable for occupancy is 1 ug/m3.

In consultation with IDPH, OSC Mitchell told Mr [redacted] that his home is not safe for occupancy and recommended that he not live in the home until mercury vapors could be brought down to acceptable levels. Mr [redacted] agreed and said he can stay with a relative. OSC Mitchell then discussed the steps that would be necessary to remove mercury from the home as well as the associated cleanup costs. Mr [redacted] said he did not have the financial means to remove mercury from his home as requested that EPA assist him with the cleanup.

OSC Mitchell mobilized EPA cleanup contractors, Environmental Quality Management (EQM) and Weston START contractor(s) to the Des Plaines mobile home on Friday August 8, 2008. At 10:00am, OSC Mitchell performed a health and safety briefing and outlined the tasks to be performed. Level C PPE with mercury vapor cartridges would be worn in until engineering controls bring mercury vapor levels down below 12.5 ug/m3. The following tasks were outlined by OSC Mitchell:

1.Removal of elemental mercury from soil and stairs utilizing a mercury vacuum.
2.Wash stairs and walkway with mercury chelating agent i.e. Mersorbâ□¢
3.a) Bag personnel possessions and furniture and remove them from house.
 b) Allow them to bake in the sun
 c) Screen bags and items for the presence of mercury vapors with Lumex MVA.
4.Cut, bag and remove all carpeting from home for disposal.
5.Vacuum all elemental mercury from home.
6.Wash all sub floors with Mersorbâ□¢
7.Place homeowners personnel possessions inside 2 onsite storage containers
8.Return to the home on Monday August 11, 2008 and screen the home again for mercury vapors.

On Monday August 11, 2008 ERS crews again vacuumed additional elemental mercury from the home. Large air movers were also placed inside the home in an effort to remove any pockets of mercury vapors. OSC Mitchell and START contractor Jay Rauh then screened the floor of the home for mercury vapors with the Lumex. Mercury vapors in excess of 30 ug/m3 were encountered along the walls of the bedroom, kitchen and inside the HVAC return air vent. The house was closed up, heat turned on and breathing zone measurements were collected. All rooms of the home exhibited mercury vapors in excess of 25ug/m3. In order to reduce mercury vapors to acceptable ATSTR occupancy levels, it was determined that removal of the sub-floor, walls and HVAC system would be necessary. OSC Mitchell determined that this action to be cost prohibitive and discussed options with the homeowner.

After considering options, and due to the value of the home and the estimated clean-up costs, it was decided that the most prudent course of action would be to remove the mobile home

from the site and dispose of it as mercury contaminated debris.

On Tuesday, September 9th, OSC Mitchell, ERRS (EQM), and START (WESTON) returned to the site to prepare the home for transportation and removal from the mobile home park.

START member Rauh calibrated a Lumex MVA and proceeded to screen the breathing zone in and around the home.

- Background â□□ 0.005 ug/m3
- Stairway (in place) â□□ 0.117 ug/m3
- Entryway â□□ 5.794 ug/m3
- Living room â□□ 5.587 ug/m3
- Living room HVAC grate (floor level) â□□ 11.225
- Kitchen â□□ 5.736 ug/m3
- Hallway â□□ 4.835 ug/m3
- Small bedroom â□□ 4.974 ug/m3
- Large bedroom â□□ 4.904 ug/m3
- Bathroom â□□ 5.139 ug/m3

Rauh screened around the perimeter of the home. The prevailing wind direction was from the north, northwest. The mercury vapor levels were:

- North â□□ 0.004 ug/m3
- East â□□ 59.844 ug/m3 (near elemental mercury discovered near stairs)
- South â□□ 0.786 ug/m3
- West â□□ 0.056 ug/m3

After the screening indicated that the area was safe for work in Level D PPE, ERRS and a crew from the mobile home park begun preparing the trailer for transportation.

- The â□□skirtâ□□ surrounding the bottom of the trailer was removed
- Air was added to the tires
- Axels were inspected and lubricated
- Electricity was shut off and the wiring was removed from the bottom of the trailer
- Plumbing was disconnected from the trailer
- The stairway was moved
- The awning above the stairs was removed

After the stairs were moved, mercury beads were noted in the vicinity of the front door to the mobile home. ERRS used a mercury vacuum and shovel to remove the beads and placed the waste with other mercury waste for disposal. Rauh screened the ground level with a Lumex MVA where readings ranged up to 59.844 ug/m3. Several bags of personal belongings were screened for the resident.

The mobile home was removed from the property on September 12, 2008.

After the mobile home was removed, visible and detectable elemental mercury remained on and near the concrete pad where the mobile home sat. OSC Mitchell decided to seal the

concrete pad with an epoxy sealant.

On September 15, 2008, the site area was divided into 3 grids and a composite sample from each grid w as collected. START (WESTON) collected three composite surface soil samples for total mercury analysis. The following are the results from those composite samples:

. Sample Result (mg/kg)
Grid-1 0.080
Grid-2 12
Grid-3 35*

The Agency for Toxics Screening and Disease Registry (ATSDR) does not have a health-based level for mercury in soil, the most appropriate comparison of confirmation sampling data would be to the USEPA Superfund Regional Screening Level (6.7 mg/kg for elemental mercury in residential soil) and the Illinois EPA TACO criteria (10 mg/kg for elemental mercury in residential soil). Since Grid #3 exceeded both the USEPA Superfund Regional Screening Level and the Illinois EPA TACO criteria. OSC Mitchell decided that additional soil removal was warranted.

On September 16, 2008, ERRS (EQM) power-washed the concrete pads which was necessary to prepare the pad to be sealed with epoxy. The pad was sealed the following day. Cold and inclement weather conditions prevented scheduling additional soil removal in the months of October and November. The detection of mercury vapors was necessary to guide soil removal and colder temperatures reduced mercury vapor pressure and subsequently, the generation of vapors. Additional soil removal was scheduled to be performed in the Spring of 2009 in more favorable weather conditions. This decision was discussed with the Touhy Mobile Home Park Manager. The manager stated that this option was acceptable because there are no current plans on placing another mobile home on that pad and completion in the Spring 2009 is acceptable.

On May 20, 2009 ERRS, START, and OSC Mitchell returned to the site. After removing the visqueen that had stabilized the site over the winter, a screening was performed with a Lumex MVA at near surface (1â□□-2â□□ above the ground surface) to identify hot spots. Two hot spots were identified; both were in soil, near the concrete pad. See Figure 2 for screening locations and results.

ERRS used a small excavator to remove soil that caused elevated readings on the Lumex MVA. The soil was removed from the hot spots in 6â□□ increments. The Lumex was used to verify that the excavation was effective and to minimize the spoils volume. The material was placed in 55 gallon drums. See Figure 4 for excavation areas on a map.

After the excavation activities were complete, another round of screening with the Lumex MVA was performed at approximately 3â□□ above the ground surface (approximate breathing zone of a small child). There was only a slight increase above background mercury levels recorded. See Figure 3 for screening locations and results. A five point composite soil

sample was collected by OSC Mitchell and START. Analytical results for the composite sample were 0.21 mg/kg. This level is below both the USEPA Superfund Regional Screening Level and the Illinois EPA TACO criteria. No additional soil removal is warranted. In addition, Dr, Mark Johnson with ATSDR concurred with this decision in a June 9, 2009 e-mail stating â□□Based on the information you have provided, I would agree that the actions taken and the post-cleanup sampling data (0.21 mg/kg mercury) supports the conclusion that the removal action has been sufficient to address the current and future health hazard of mercury in the soil at this property."

On June 24, 2009 the remainder of mercury contaminated soil was removed and disposed.

Current Activities
None

Planned Removal Actions
No additional removal actions planned

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
ERRS - Cleanup Contractor	$80,000.00	$66,930.14	$13,069.86	16.34%
RST/START	$18,000.00	$7,500.00	$18,000.00	58.33%
Intramural Costs				
Total Site Costs	$98,000.00	$74,430.00	$23,570.00	24.05%

* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

Disposition of Wastes

Waste Stream	Quantity	Manifest #	Disposal Facility
RQ Hazardous Waste Solid NOS Mercury 9	500 lbs	002501838	Envirite, Harvy

UN3077 PG III D009		FLE	Illinois
Non-hazardous Non-Regulated Solid Mercury Contaminate	1,500 lbs	002501838 FLE	Envirite, Harvy Illinois

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